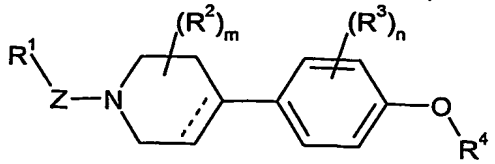
CLAIMS

1. A compound of formula (I) or a pharmaceutically acceptable salt thereof:



(I)

wherein:

R^1 represents -C_{1-6} alkyl-O-C_{1-6} alkyl, -C_{3-8} cycloalkyl, aryl, heterocyclyl, heteroaryl, -C_{1-6} alkyl-aryl, -C_{1-6} alkyl-heteroaryl, -C_{1-6} alkyl-heterocyclyl, -aryl-X-aryl, -aryl-X-heteroaryl, -aryl-X-heterocyclyl,- heteroaryl-X-aryl, -heteroaryl-X-heteroaryl, -heteroaryl-X-heterocyclyl, -heterocyclyl-X-aryl, -heterocyclyl-X-heteroaryl or -heterocyclyl-X-heterocyclyl,

wherein said C_{1-6} alkyl, C_{3-8} cycloalkyl, aryl, heteroaryl and heterocyclyl groups of R^1 may be optionally substituted by one or more (eg. 1, 2 or 3) substituents which may be the same or different, and which are selected from the group consisting of halogen, hydroxy, cyano, nitro, oxo, haloC_{1-6} alkyl, polyhaloC_{1-6} alkyl, haloC_{1-6} alkoxy, polyhaloC_{1-6} alkoxy, C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} alkylthio, C_{1-6} alkoxyC_{1-6} alkyl, C_{3-7} cycloalkylC_{1-6} alkoxy, C_{1-6} alkanoyl, C_{1-6} alkoxycarbonyl, C_{1-6} alkylsulfonyl, C_{1-6} alkylsulfinyl, C_{1-6} alkylsulfonyloxy, C_{1-6} alkylsulfonylC_{1-6} alkyl, C_{1-6} alkylsulfonamidoC_{1-6} alkyl, C_{1-6} alkylamidoC_{1-6} alkyl, arylsulfonyl, arylsulfonyloxy, aryloxy, arylsulfonamido, arylcarboxamido, aroyl, or a group $NR^{15}R^{16}$, $-CONR^{15}R^{16}$, $-NR^{15}COR^{16}$, $-NR^{15}SO_2R^{16}$ or $-SO_2NR^{15}R^{16}$, wherein R^{15} and R^{16} independently represent hydrogen or C_{1-6} alkyl or together form a heterocyclic ring;

X represents a bond, O, CO, OCH_2, CH_2O or SO_2;

Z represents CO, $CONR^{10}$ or SO_2;

R^{10} represents hydrogen, C_{1-6} alkyl, -C_{3-8} cycloalkyl, aryl, heterocyclyl, heteroaryl;

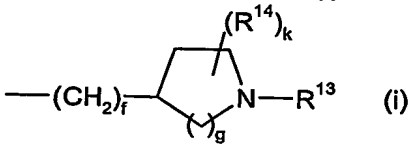
---- represents a single or a double bond;

m and n independently represent 0, 1 or 2;

R^2 represents hydrogen, C_{1-6} alkyl or C_{1-6} alkoxy;

R^3 represents halogen, C_{1-6} alkyl, hydroxy, C_{1-6} alkoxy, cyano, amino, -COC_{1-6} alkyl, -SO_2C_{1-6} alkyl or trifluoromethyl;

R^4 represents $-(CH_2)_q-NR^{11}R^{12}$ or a group of formula (i):



(i)

wherein q is 2, 3 or 4;

$-NR^{11}R^{12}$ represents a heterocyclic group optionally substituted by one or more (eg. 1, 2 or 3) R^{17} groups;

R^{13} represents C_{1-6} alkyl, C_{3-8} cycloalkyl, -C_{1-6} alkyl-C_{1-6} alkoxy, -C_{1-6} alkyl-C_{3-8} cycloalkyl;

R^{14} and R^{17} independently represent halogen, C_{1-6} alkyl, haloalkyl, OH or C_{1-6} alkoxy;

f is 0 or 1;
g is 1 or 2
k is 0, 1 or 2
or a pharmaceutically acceptable salt thereof.

2. A compound as defined in claim 1 wherein R^1 represents:
-aryl optionally substituted by 1 or 2 halogen, haloC_{1-6} alkyl, cyano or SO_2Me groups;
-aryl-X-heterocyclyl;
-heteroaryl optionally substituted by 1 or 2 haloC_{1-6} alkyl or cyano groups;
-heterocyclyl optionally substituted by 1 or 2 oxo groups; or
-C_{1-6} alkyl-O-C_{1-6} alkyl.

3. A compound as defined in claim 2 wherein R^1 represents tetrahydropyranyl, 4-cyanophenyl, 2-cyanopyridin-3-yl or 2-trifluoromethylpyridin-3-yl.

4. A compound as defined in claim 3 wherein R^1 represents 4-cyanophenyl.

5. A compound as defined in any one of claims 1 to 4 wherein X and Z both represent CO.

6. A compound as defined in any one of claims 1 to 5 wherein ---- represents a single bond.

7. A compound as defined in any one of claims 1 to 6 wherein m and n both represent 0.

8. A compound as defined in any one of claims 1 to 7 wherein R^4 represents -$(CH_2)_q$-$NR^{11}R^{12}$, q represents 3 and -$NR^{11}R^{12}$ represents N-piperidinyl or N-pyrrolidinyl optionally substituted by 1 or 2 C_{1-6} alkyl groups or R^4 represents a group of formula (i) wherein f and k both represent 0, g represents 2 and R^{13} represents C_{1-6} alkyl or C_{3-8} cycloalkyl.

9. A compound as defined in claim 8 wherein R^4 represents a group of formula (i) wherein f and k both represent 0, g represents 2 and R^{13} represents i-propyl.

10. A compound as defined in claim 1 which is:
4-(4-{[3-(1-Piperidinyl)propyl]oxy}phenyl)-1-(tetrahydro-2*H*-pyran-4-ylcarbonyl)piperidine;
4-{[4-(4-{[3-(1-Piperidinyl)propyl]oxy}phenyl)-1-piperidinyl]carbonyl}benzonitrile;
4-{[4-(4-{[3-(1-Piperidinyl)propyl]oxy}phenyl)-1-piperidinyl]carbonyl}pyridine;
4-(4-{[3-(1-Piperidinyl)propyl]oxy}phenyl)-1-{[4-(1-pyrrolidinylcarbonyl)phenyl] carbonyl} piperidine;

1-{[4-(Methylsulfonyl)phenyl]carbonyl}-4-(4-{[3-(1-piperidinyl) propyl] oxy} phenyl) piperidine;
1-[(4-Fluorophenyl)carbonyl]-4-(4-{[3-(1-piperidinyl)propyl]oxy}phenyl)piperidine;
3-{[4-(4-{[3-(1-Piperidinyl)propyl]oxy}phenyl)-1-piperidinyl]carbonyl}pyridine;
4-{[4-(4-{[3-(1-Piperidinyl)propyl]oxy}phenyl)-1-piperidinyl]carbonyl}morpholine;
1-(1-Piperidinylcarbonyl)-4-(4-{[3-(1-piperidinyl)propyl]oxy}phenyl)piperidine;
4-(4-{[3-(1-Piperidinyl)propyl]oxy}phenyl)-1-(1-pyrrolidinylcarbonyl)piperidine;
1-(4-Fluoro-phenyl)-1-{4-[4-(1- isopropyl-piperidin-4-yloxy)-phenyl]-piperidin-1-yl}-methanone;
1-(1-Methylethyl)-4-{[4-(1-{[4-(1-pyrrolidinylcarbonyl)phenyl]carbonyl}-4-piperidinyl)phenyl]oxy}piperidine;
1-(1-Methylethyl)-4-({4-[1-(tetrahydro-2*H*-pyran-4-ylcarbonyl)-4-piperidinyl] phenyl}oxy)piperidine;
1-(1-Methylethyl)-4-{[4-(1-{[4-(methylsulfonyl)phenyl]carbonyl}-4-piperidinyl)phenyl]oxy}piperidine;
1-(1-Methylethyl)-4-[(4-{1-[3-(methyloxy)propanoyl]-4-piperidinyl} phenyl)oxy]piperidine;
4-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-1-piperidinyl] carbonyl}pyridine;
3-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-1-piperidinyl] carbonyl}pyridine;
4-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-1-piperidinyl]carbonyl} morpholine;
1-(1-Azetidinylcarbonyl)-4-(4-{[1-(1-methylethyl)-4-piperidinyl]oxy}phenyl) piperidine;
1-(1-Methylethyl)-4-({4-[1-(1-pyrrolidinylcarbonyl)-4-piperidinyl] phenyl}oxy)piperidine;
1-(1-Methylethyl)-4-({4-[1-(1-piperidinylcarbonyl)-4-piperidinyl]phenyl}oxy)piperidine;
4-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-1-piperidinyl] carbonyl} thiomorpholine 1,1-dioxide;
4-[(4-{4-[(1-Cyclobutyl-4-piperidinyl)oxy] phenyl}-1-piperidinyl)carbonyl] benzonitrile;
1-Cyclobutyl-4-[(4-{1-[(4-fluorophenyl) carbonyl]-4-piperidinyl}phenyl) oxy] piperidine;
1-Cyclobutyl-4-{[4-(1-{[4-(1-pyrrolidinylcarbonyl)phenyl]carbonyl}-4-piperidinyl)phenyl]oxy}piperidine;
1-Cyclobutyl-4-[(4-{1-[3-(methyloxy) propanoyl]-4-piperidinyl} phenyl)oxy] piperidine;
4-[(4-{4-[(1-Cyclobutyl-4-piperidinyl)oxy] phenyl}-1-piperidinyl)carbonyl]pyridine;
3-[(4-{4-[(1-Cyclobutyl-4-piperidinyl)oxy]phenyl}-1-piperidinyl)carbonyl]pyridine;
4-[(4-{4-[(1-Cyclobutyl-4-piperidinyl)oxy]phenyl}-1-piperidinyl)carbonyl]morpholine;
1-[(4-Fluorophenyl)carbonyl]-4-(4-{[3-(1-piperidinyl)propyl]oxy}phenyl)-1,2,3,6-tetrahydropyridine;
4-{[4-(4-{[3-(1-Piperidinyl)propyl]oxy} phenyl)-3,6-dihydro-1(2*H*)-pyridinyl] carbonyl} benzonitrile;
4-(4-{[3-(1-Piperidinyl)propyl] oxy}phenyl)-1-{[4-(1-pyrrolidinylcarbonyl)phenyl]carbonyl}-1,2,3,6-tetrahydropyridine;
4-(4-{[3-(1-Piperidinyl)propyl] oxy} phenyl)-1-(tetrahydro-2*H*-pyran-4-ylcarbonyl)-1,2,3,6-tetrahydropyridine;
1-{[4-(Methylsulfonyl)phenyl]carbonyl}-4-(4-{[3-(1-piperidinyl)propyl]oxy} phenyl) -1,2,3,6-tetrahydropyridine;

4-{[4-(4-{[3-(1-Piperidinyl)propyl]oxy}phenyl)-3,6-dihydro-1(2*H*)-pyridinyl]carbonyl} morpholine;
1-(1-Piperidinylcarbonyl)-4-(4-{[3-(1-piperidinyl)propyl]oxy}phenyl)-1,2,3,6-tetrahydropyridine;
4-(4-{[3-(1-Piperidinyl)propyl]oxy} phenyl)-1-(1-pyrrolidinylcarbonyl)-1,2,3,6-tetrahydropyridine;
1-[(4-Fluorophenyl)carbonyl]-4-(4-{[1-(1-methylethyl)-4-piperidinyl]oxy}phenyl)-1,2,3,6-tetrahydropyridine;
4-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-3,6-dihydro-1(2*H*)-pyridinyl]carbonyl}benzonitrile;
4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-1-{[4-(1-pyrrolidinylcarbonyl)phenyl]carbonyl}-1,2,3,6-tetrahydropyridine;
4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy} phenyl)-1-(tetrahydro-2*H*-pyran-4-ylcarbonyl)-1,2,3,6-tetrahydropyridine;
4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-1-{[4-(methylsulfonyl)phenyl]carbonyl}-1,2,3,6-tetrahydropyridine;
4-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-3,6-dihydro-1(2*H*)-pyridinyl]carbonyl}pyridine;
4-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-3,6-dihydro-1(2*H*)-pyridinyl]carbonyl}morpholine;
4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-1-(1-piperidinylcarbonyl)-1,2,3,6-tetrahydropyridine;
4-(4-{[1-(1-Methylethyl)-4-piperidinyl] oxy}phenyl)-1-(1-pyrrolidinyl carbonyl)-1,2,3,6-tetrahydropyridine;
4-({4-[4-({3-[(2*R*)-2-Methyl-1-pyrrolidinyl]propyl}oxy)phenyl]-1-piperidinyl} carbonyl)benzonitrile;
4-[4-({3-[(2*R*)-2-Methyl-1-pyrrolidinyl]propyl}oxy)phenyl]-1-(tetrahydro-2*H*-pyran-4-ylcarbonyl)piperidine;
4-[4-({3-[(2*R*,5*R*)-2,5-Dimethyl-1-pyrrolidinyl]propyl}oxy)phenyl]-1-(tetrahydro-2*H*-pyran-4-ylcarbonyl)piperidine;
2-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl] oxy}phenyl)-1-piperidinyl]carbonyl} pyrazine;
3-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl] oxy}phenyl)-1-piperidinyl]carbonyl} benzonitrile;
1-(1-Methylethyl)-4-{[4-(1-{[4-(trifluoromethyl)phenyl]carbonyl}-4-piperidinyl)phenyl]oxy}piperidine;
6-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl] oxy}phenyl)-1-piperidinyl]carbonyl} quinoxaline;
or a pharmaceutically acceptable salt thereof.

11. A compound as defined in claim 1 which is:
5-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl] oxy}phenyl)-1-piperidinyl]carbonyl}-2-pyridinecarbonitrile; and
5-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl] oxy}phenyl)-1-piperidinyl]carbonyl}-2-(trifluoromethyl)pyridine;

or a pharmaceutically acceptable salt thereof.

12. A compound as defined in claim 1 which is:
4-{[4-(4-{[1-(1-Methylethyl)-4-piperidinyl]oxy}phenyl)-1-piperidinyl] carbonyl} benzonitrile or a pharmaceutically acceptable salt thereof.

13. A pharmaceutical composition which comprises the compound of formula (I) as defined in any one of claims 1 to 12 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier or excipient.

14. A compound as defined in any one of claims 1 to 12 for use in therapy.

15. A compound as defined in any one of claims 1 to 12 for use in the treatment of neurological diseases.

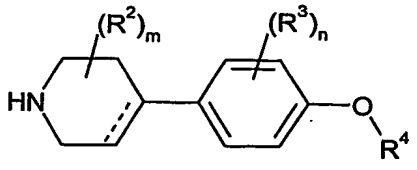
16. Use of a compound as defined in any one of claims 1 to 12 in the manufacture of a medicament for the treatment of neurological diseases.

17. A method of treatment of neurological diseases which comprises administering to a host in need thereof an effective amount of a compound of formula (I) as defined in any one of claims 1 to 12 or a pharmaceutically acceptable salt thereof.

18. A pharmaceutical composition for use in the treatment of neurological diseases which comprises the compound of formula (I) as defined in any one of claims 1 to 12 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier.

19. A process for the preparation of a compound of formula (I) or a pharmaceutically acceptable salt thereof, which process comprises:

(a) preparing a compound of formula (I) wherein Z represents CO which comprises reacting a compound of formula (II)



(II)

or an optionally activated or protected derivative thereof, wherein ---- , R^2, R^3, R^4, m and n are as defined in claim 1, with a compound of formula R^1-CO-L^1, wherein R^1 is as defined in claim 1and L^1 represents a suitable leaving group such as a suitable halogen atom, or a hydroxyl group; or

(b) preparing a compound of formula (I) wherein Z represents SO_2 which comprises reacting a compound of formula (II), with a compound of formula R^1-SO_2-L^2, wherein R^1 is as defined in claim 1and L^2 represents a suitable leaving group, such as a suitable halogen atom (eg. chlorine); or

(c) preparing a compound of formula (I) wherein Z represents CONH which comprises reacting a compound of formula (II), with a compound of formula R^1-N=C=O, wherein R^1 is as defined in claim 1; or

(d) preparing a compound of formula (I) wherein Z represents $CONR^{10}$ which comprises reacting a compound of formula (II), with a compound of formula $R^1R^{10}N$-L^3, wherein R^1 and R^{10} are as defined in claim 1 and L^3 represents hydrogen or COCl; or

(e) deprotecting a compound of formula (I) or converting groups which are protected; and optionally thereafter

(f) interconversion to other compounds of formula (I).